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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,311	06/26/2003	Donald L. Yates,	MI22-2236	8026
21567	7590	07/11/2007		
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			EXAMINER DUDA, KATHLEEN	
			ART UNIT 1756	PAPER NUMBER
			MAIL DATE 07/11/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/609,311	YATES, DONALD L.	
	Examiner	Art Unit	
	Kathleen Duda	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2007.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 73-95 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 73-95 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05252007</u> .  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

1. Claims 1-72 have been cancelled. New claims 73-95 are pending.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 78, 89, 91 and 92 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 78 and 89 recite the first layer being comprised of at least 1 of 2 components. Page 10 of the specification teaches both components are in the resist layer. Claims 78 and 89 recite that the second layer comprises at least one of two components. Page 9 of the specification teaches both components are present. Claims 91 and 92 recite ranges not taught in the specification.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 74 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 74 recites that the two resist layers comprise different compositions "as initially formed". It is not clear how the compositions are different. The specification teaches that the two layers can have different compositions.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 73, 75-77, 79, 86-88, 90 and 95 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang (US Patent 5,275,695).

Chang teaches a process of forming an etched pattern. Column 6, lines 4-49, teach applying two resist layers with the compositions being different. Column 6, line 50 to column 7, line 10, teaches that the resist layers are exposed to radiation including from an excimer laser. An example

of an excimer laser is an ArF laser which has irradiation at 193 nm within the limits of the recitation of claims 75 and 86. This section also teaches that both of the layers can be positive or negative meeting the limitations of claims 76 and 77. Column 7, lines 25-40, teach that the resist pattern can be used as an etching mask. Column 7, lines 45-48, teach that the bottom layer can be about 80 nm and that the top layer can be 1 to 2 microns meeting the claim limitation that the bottom layer have a thickness less than the upper layer. Column 1, lines 12-16, teach that the resist pattern can be used in electronic components and thin film devices which are known to contain Si-containing films. Columns 3 and 4 teach similar etching processes as prior art which etch Si-containing layers.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 74, 78, 80-85, 89 and 91-94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang.

The teachings of Chang have been discussed above. Chang does not specifically teach the limitations of the claims under rejection but these limitations are obvious as will be discussed.

Claim 74 recites that the two resist layers comprise different compositions as initially formed. If this is interpreted as being different compositions then Chang teaches that as explained above. If not, the compositions do change when irradiated which would lead them to being different compositions than initially formed.

Claims 78 and 89 recite compositions not taught by Chang but these as well as the teachings of Chang are known as photoresist compositions and one of ordinary skill in the art would be able to determine suitable resist compositions to use in the process without undue experimentation.

Claims 80-83 and 91-93 recite thickness limitations not specifically taught by Chang but one of ordinary skill in the art would be able to determine suitable thickness ratios without undue experimentation.


Claims 84, 85 and 94 recite design choices as to the shape of the resist patterns which one of ordinary skill in the art would be able to determine without undue experimentation.

**Conclusion**

10. Any inquiry concerning this communication should be directed to Examiner K. Duda at (571) 272-1383. Official FAX communications should be sent to (571) 273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff, can be reached at 571-272-1385.

Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Kathleen Duda  
Primary Examiner  
Art Unit 1756